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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,602	05/24/2001	Indra Laksono	VIXS 004	8010
34280	7590	05/22/2006	EXAMINER	
TIMOTHY W. MARKISON			VU, NGOC K	
VIXS, INC.			ART UNIT	
P.O.BOX 160727			PAPER NUMBER	
AUSTIN, TX 78736			2623	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,602

Applicant(s)

LAKSONO, INDRA

Examiner

Ngoc K. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-25,28,30-36,38-51 and 53-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-53 and 53-66 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-24,28,30-36,38,41-48,67-70 and 72-79 is/are rejected.
- 7) ☒ Claim(s) 5,25,39,40 and 71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed March 31, 2006 with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claim 36 is objected to because of the following informalities: it appears that the term "to contain" is typographical error. Please change the term "to contain" into "that contains". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It appears that claim 3 depends on the canceled claim 2, therefore, the scope of claim 3 cannot be determined.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 6, 7, 11, 13-15, 18-22 and 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Williams (U.S. 6,493,873 B1).

Regarding claim 1, Williams teaches a method of multiplexing a plurality of channels in a multimedia system, the method comprises:

receiving a plurality of channels from a multimedia source (from satellite) (see col. 5, lines 59-62; col. 6, lines 47-63);

receiving a plurality of channel selection commands by: receiving a plurality of channel selection requests from a plurality of clients, a plurality of channel select requests (see col. 7, lines 31-37; col. 10, lines 59-65; col. 6, lines 37-42); and processing the plurality of channel selection requests (demodulating and decoding the requests) to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes last channel selection command (i.e., latest channel selection request) (see col. 16, lines 5-19).

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection commands to produce selected channels (see col. 11, lines 6-16); and

encoding (via encoder 60) each of the selected channels based on a data conveyance protocol (DVB cable) of the multimedia system to produce a set of encoded channel data (see col. 10, lines 10-23).

Regarding claims 6 and 7, Williams teaches receiving a second plurality of channels from a second multimedia source (from cable provider), the selecting a channel comprises selecting a channel from the plurality of channels, wherein each of the channel selection commands includes identify of the multimedia source or the second multimedia source and identify of the channel (see col. 10, lines 40-52; col. 6, lines 47-63).

Regarding claim 11, Williams teaches packetizing (via 58) data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes packet sequence number (i.e., PID number) (see col. 13, line 23 to col. 14, lines 14 and figure 3).

Regarding claim 13, Williams teaches framing data (via encoder 60) of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes the identity the selected channel (see figure 3; col. 9, line 65 to col. 10, line 23; col. 13, lines 56 to col. 14, line 15).

Regarding claim 14, Williams teaches conveying the frame in accordance with frequency division multiplexing data conveyance protocol (see col. 10, lines 24-38).

Regarding claim 15, Williams teaches multilevel encoding data of each of the selected channels via R-S encoder 92 and differential encoder 98 (see col. 14, lines 2-25).

Regarding claim 18, Williams teaches receiving a single channel from a multimedia source (from cable provider); selecting the single channel based on at least one of the plurality of channel selection commands to produce a selected single channel; and encoding the selecting single channel based on the data conveyance protocol (see col. 10, lines 40-52 and 10-23; col. 11, lines 6-21).

Regarding claim 19, Williams teaches receiving the single channel of at least one of data, audio data and video data from a modem (see col. 6, lines 47-52).

Regarding claim 20, Williams teaches receiving audio and video data for each of the plurality of channels from a satellite connection (see col. 5, lines 59-62).

Regarding claim 21, Williams teaches a method of multiplexing a plurality of channels in a multimedia system, the method comprises:

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receiving a plurality of channels from a multimedia source (from satellite) (see col. 5, lines 59-62; col. 6, lines 47-63);

receiving a plurality of channel selection commands (see col. 7, lines 31-37);

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection commands to produce selected channels (see col. 11, lines 6-16); and

encoding (via encoder 60) each of the selected channels based on a data conveyance protocol (DVB cable) of the multimedia system to produce a set of encoded channel data (see col. 10, lines 10-23) by packetizing data of each of the selected channels (packetizing data by packetizer 58) into a packet that includes a header section and a data section (it is noted that a header field and data field are inherently included in a packet), wherein the header section includes the identity of the selected channel (since the packetizer 58 packetizes the selected channel data, the header field inherently includes service channel ID) (see col. 9, line 59 to col. 10, line 9).

Claim 22, Williams teaches receiving a plurality of channel selection requests from a plurality of clients, a plurality of channel select requests (see col. 7, lines 31-37; col. 10, lines 59-65; col. 6, lines 37-42); and processing the plurality of channel selection requests (demodulating and decoding the requests) to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes last channel selection command (i.e., latest channel selection request) (see col. 16, lines 5-19).

Claim 31, see the similar interpretation for claim 13 above.

Claim 32, see the similar interpretation for claim 14 above.

Claim 33, see the similar interpretation for claim 15 above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8-10, 16, 17, 28, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1).

Claims 8 and 28, Williams teaches receiving the plurality of channel selection commands (see col. 7, lines 31-40; col. 10, lines 59-65). Williams does not teach decrypting each of the plurality of channel selection commands. Official Notice is taken that the technique of decrypting information is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Williams by decrypting each of the plurality of channel selection commands for security purposes.

Regarding claims 9, 10, 16, 17, 34 and 35, Williams teaches encoding the channels into packets based on the data conveyance protocol (see col. 9, line 59 to col. 10, line 16). Williams does not teach compressing data and encrypting data. Official Notice is taken that encrypting and/or compressing data are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of Williams by encrypting and/or compressing data for security purpose and for reducing bandwidth purpose.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Basawapatna et al. (US 6,598,231 B1).

Regarding claim 23, Williams does not teach processing the plurality of channel selection requests comprising authenticating a client of the plurality of clients that provides a

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specific channel selection request. However, Basawapatna teaches the steps of checking the customer authorization and determination whether or not the customer is a valid user (see col. 14, lines 19-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Williams by processing the plurality of channel selection requests comprising authenticating a client of the plurality of clients that provides a specific channel selection request as taught by Basawapatna in order to verify the authorized user for requesting the channel selection.

10. Claim 4, 24, 36, 38 and 41-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Hodge et al. (US 20010005908 A1).

Regarding claim 36, Williams teaches a tuning module for using in multimedia system, the tuning module comprises:

plurality of selectors (transmodulator channels), wherein each of the plurality of selectors is operably coupled to receive a plurality of channels, wherein each of the plurality of selectors outputs a channel of the plurality of channels based on a respective one of a plurality of channel selection commands to produce selected channels (see col. 9, lines 28-48; col. 10, lines 40-52);

encoding module (60) operably coupled to encode the selected channels based on a data conveyance protocol (DVB cable) of the multimedia system to produce encoded channel data (col.10, lines 10-23); and

bus interface module (between encoder 60 and upconverter 66) operably coupled to transmit the encoded channel data in accordance with the data conveyance protocol (DVB cable) (see figure 3).

Williams further teaches a receiving module (72, 73) identifies at least one of the packets that contains channel selection commands (from the requests) to produce an identified packet

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(since the requests are digital requests) (see col. 6, lines 37-42; col. 10, lines 59-67 and figure 3).

It is noted that the system of Williams includes receiving and decoding the plurality of channel selection requests by decoder 73. The requests may be sent from the IRDs periodically to indicate to the control unit 72 which transponder signals are being actively requested by the IRDs (see col. 7, lines 31-40; col. 10, lines 59-65; col. 11, lines 1-4).

Williams does not explicitly teach monitoring packets on a shared bus with respect to claims 4, 24 and further regarding claim 36. However, Hodge teaches that provider or headend 100 comprises a shared bus 120 (see figure 4) to provide an architecture which allows the provider or headend to share headed resources and to receive upstream data signals. It is further noted that the shared bus includes address, data and control elements which are communicated in a serial bus or parallel bus (see 0045, 0082, 0061 and figure 4). From this view, Hodge teaches monitoring received data on a shared bus 120. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Williams by using a shared bus 120 at headend as taught by Hodge for purposes of sharing headed resources and receiving upstream data signals with less cost.

Regarding claim 38, the combination of Williams teaches receiving and decoding the plurality of channel selection requests by decoder 73. These requests may be from the IRDs periodically to indicate to the control unit 72 which transponder signals are being actively requested by the IRDs (see Williams: col. 7, lines 31-40; col. 10, lines 59-65; col. 11, lines 1-4; and figure 3).

Regarding claim 41, Williams teaches receiving the plurality of channel selection commands (see col. 7, lines 31-40; col. 10, lines 59-65). Williams does not teach decrypting each of the plurality of channel selection commands. Official Notice is taken that the technique

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of decrypting information is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Williams by decrypting each of the plurality of channel selection commands for security purposes.

Regarding claim 42, Williams teaches that second plurality of selectors (within level shifter 70), wherein each of the second plurality of selectors is operably coupled to receive a second plurality of channels, wherein each of the second plurality of selectors outputs a channel of the second plurality of channels based on a respective one of the plurality of channel selection commands to produce second selected channels (see col. 10, lines 40-52).

Regarding claim 43, Williams teaches packetizing (via 58) data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes packet sequence number (i.e., PID number) (see col. 13, line 23 to col. 14, lines 14 and figure 3).

Regarding claim 44, Williams teaches framing data (via encoder 60) of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes encryption (see figure 3; col. 9, line 65 to col. 10, line 23; col. 13, lines 56 to col. 14, line 15).

Regarding claim 45, Williams teaches multilevel encoding data of each of the selected channels via R-S encoder 92 and differential encoder 98 (see col. 14, lines 2-25).

With respect to claims 46-47, Williams teaches encoding the channels into packets based on the data conveyance protocol (see col. 9, line 59 to col. 10, line 16). Williams does not teach compressing data and encrypting data. Official Notice is taken that encrypting and/or compressing data are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of

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Williams by encrypting and/or compressing data for security purpose and for reducing bandwidth purpose.

Regarding claim 48, Williams teaches that the system comprises controller (72) to control receiving of the plurality of channel selection commands and control the transmitting of the encoded channel data (see col. 10, lines 53-65; col. 11, lines 6-67).

11. Claims 12 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Hartley et al. (US 64734414 B1).

Regarding claims 12 and 30, Williams does not teach conveying the packet using CSMA with collision detection. However, Hartley discloses that a protocol known as carrier sense multiple access with collision detection (CSMA/CD) is utilized to detect collisions during transmission (see col. 1, lines 25-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Williams by providing CSMA/CD protocol in order to effectively detect collisions during transmission.

12. Claims 67, 68, 72, 73 and 75-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Hoarty (US 5,883,661 A).

Regarding claim 67, Williams teaches an apparatus for multiplexing a plurality of channels in a multimedia channels, the apparatus comprises: processing module (within unit 72); and memory (within unit 72) operably coupled to the processing module, wherein the memory includes operational instructions (col. 12, lines 1-6; col. 10, lines 53-59) that cause the processing module to:

receiving a plurality of channels from a multimedia source (from satellite) (see col. 5, lines 59-62; col. 6, lines 47-63);

receiving a plurality of channel selection commands (see col. 7, lines 31-47);

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection commands to produce selected channels (see col. 11, lines 6-16); and

encoding (via encoder 60) each of the selected channels based on a data conveyance protocol (DVB cable) of the multimedia system to produce a set of encoded channel data (see col. 10, lines 10-23).

Williams does not explicitly teach the channel selection includes an identity of one of the plurality of sources, and an identity of the channel. However, Hoarty teaches that system manager 22 receives a request for interactive service upon an interactive channel selection by a user from home interface controller. Particularly, the user selects the interactive service by picking a channel number from a single numerical sequence of channel numbers via a remote control. That is, the request includes interactive service identifier associated with a channel number selected by the user so that the provider can deliver the requested interactive service to the requesting subscriber (see col. 10, lines 33-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Williams by receiving a request for a particular service included an identity service or source associated with a channel number selected by the user as taught by Hoarty to allow the provider effectively deliver the requested interactive service to the requesting subscriber.

Regarding claim 68, Williams teaches receiving a plurality of channel selection requests from a plurality of clients, a plurality of channel select requests (see col. 7, lines 31-37; col. 10, lines 59-65; col. 6, lines 37-42); and processing the plurality of channel selection requests (demodulating and decoding the requests) to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes last channel selection command (i.e., latest channel selection request) (see col. 16, lines 5-19).

Regarding claim 72, Williams teaches receiving the plurality of channel selection commands (see col. 7, lines 31-40; col. 10, lines 59-65). Williams does not teach decrypting each of the plurality of channel selection commands. Official Notice is taken that the technique of decrypting information is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Williams by decrypting each of the plurality of channel selection commands for security purposes.

Regarding claim 73, Williams teaches packetizing (via 58) data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes packet sequence number (i.e., PID number) (see col. 13, line 23 to col. 14, lines 14 and figure 3).

Regarding claim 75, Williams teaches multilevel encoding data of each of the selected channels via R-S encoder 92 and differential encoder 98 (see col. 14, lines 2-25).

Regarding claim 76, Williams teaches conveying the frame in accordance with frequency division multiplexing data conveyance protocol (see col. 10, lines 24-38).

Regarding claim 77, Williams teaches multilevel encoding data of each of the selected channels via R-S encoder 92 and differential encoder 98 (see col. 14, lines 2-25).

Regarding claims 78 and 79, Williams teaches encoding the channels into packets based on the data conveyance protocol (see col. 9, line 59 to col. 10, line 16). Williams does not teach compressing data and encrypting data. Official Notice is taken that encrypting and/or compressing data are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of Williams by encrypting and/or compressing data for security purpose and for reducing bandwidth purpose.

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13. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Hoarty (US 5,883,661 A) and further in view of Basawapatna et al. (US 6,598,231 B1).

Regarding claim 69, Williams does not teach processing the plurality of channel selection requests comprising authenticating a client of the plurality of clients that provides a specific channel selection request. However, Basawapatna teaches the steps of checking the customer authorization and determination whether or not the customer is a valid user (see col. 14, lines 19-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of Williams by processing the plurality of channel selection requests comprising authenticating a client of the plurality of clients that provides a specific channel selection request as taught by Basawapatna in order to verify the authorized user for requesting the channel selection.

14. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Hoarty (US 5,883,661 A) and further in view of Hodge et al. (US 20010005908 A1).

Regarding claim 70, it is noted that the system of Williams includes receiving and decoding the plurality of channel selection requests by decoder 73. The requests may be sent from the IRDs periodically to indicate to the control unit 72 which transponder signals are being actively requested by the IRDs (see col. 7, lines 31-40; col. 10, lines 59-65; col. 11, lines 1-4).

Williams does not explicitly teach monitoring packets on a shared bus. However, Hodge teaches that provider or headend 100 comprises a shared bus 120 (see figure 4) to provide an architecture which allows the provider or headend to share headed resources and to receive upstream data signals. It is further noted that the shared bus includes address, data and control elements which are communicated in a serial bus or paralld bus (see 0045, 0082, 0061 and

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figure 4). From this view, Hodge teaches monitoring received data on a shared bus 120.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of Williams and Hoarty by using a shared bus 120 at headend as taught by Hodge for purposes of sharing headed resources and receiving upstream data signals with less cost.

15. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. 6,493,873 B1) in view of Hoarty (US 5,883,661 A) and further in view of Hartley et al. (US 64734414 B1).

Regarding claim 74, Williams does not teach conveying the packet using CSMA with collision detection. However, Hartley discloses that a protocol known as carrier sense multiple access with collision detection (CSMA/CD) is utilized to detect collisions during transmission (see col. 1, lines 25-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Williams by providing CSMA/CD protocol in order to effectively detect collisions during transmission.

Allowable Subject Matter

16. Claims 5, 25, 39, 40 and 71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claims 49-51 and 53-66 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of the record fails to teach or fairly suggest the limitation "monitoring a shared bus at specific time intervals; and identifying a data frame at one of the specific time intervals that contains at least a portion of one of the plurality of channel selection commands" as recited in claim 49.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc K. Vu whose telephone number is 571-272-7306. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ngoc K. Vu
Primary Examiner
Art Unit 2623

May 17, 2006